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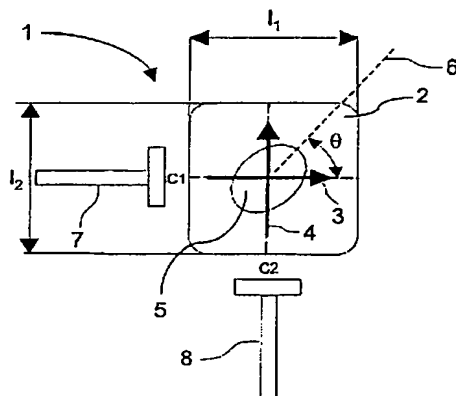
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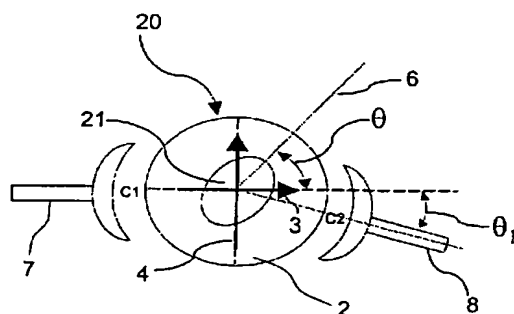
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(54) Title: DUAL MODE FILTER BASED ON SMOOTHED CONTOUR RESONATORS



(57) Abstract: A planar filter comprising a planar resonator (1, 20) including a conductive region (2, 21) having smoothed contours and supporting a first resonating mode propagating along a first conductive path (3) and a second resonating mode propagating along a second conductive path (4), perpendicular to the first conductive path. The planar filter also comprises a conductor-free region (5) made in the conductive region (2, 21) and having smoothed contours. The conductor-free region (5) is disposed along a region axis (6) forming an angle  $\theta$  with respect to the first conductive path (3). The conductor-free region (5) causes a perturbation of the symmetry of the planar resonator (1, 20) resulting in a frequency shift of the first and the second resonating mode and their mutual coupling.





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